

What is claimed is:

1. A fuel cell comprising:
a plural gas flow channels; and
a switching device;
wherein said fuel cell has the variable gas flow channel with the function to switch the connection between one gas flow channel and another one from series to parallel or from parallel to series.
2. A fuel cell according to claim 1, wherein said function of variable gas flow channel is comprised at cathode side of said fuel cell.
3. A fuel cell according to claim 1, wherein said function of variable gas flow channel is comprised at anode side of said fuel cell.
4. A fuel cell according to claim 1, wherein said function of variable gas flow channel is comprised at both cathode and anode side of said fuel cell individually.
5. A fuel cell according to claim 1, wherein the number of said gas flow channels is two.
6. A fuel cell according to claim 1, wherein the number of said gas flow channels is equal to or greater than three.
7. A fuel cell according to claim 1, wherein said fuel cell comprises a gas manifold, wherein said gas manifold is shared by a plural gas flow channels.
8. A fuel cell according to claim 1, wherein said fuel cell comprises gas flow path, wherein said gas flow path is a way to flow a gas between one gas flow channel and another one without contact to a gas diffusion backing.
9. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said switching device is set in the part of a gas flow inlet and a gas flow outlet.
10. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said switching device is set in the part of said gas flow path.
11. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said switching device is set in the part of manifold connected to a gas flow inlet, a gas flow outlet, and said gas flow path.
12. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said switching device is a valve.
13. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said fuel cell is a polymer electrolyte fuel cell.
14. A fuel cell according to claim 1, claim 2, claim 3, claim 4, claim 5, claim 6, claim 7, and claim 8, wherein said fuel cell is a polymer electrolyte fuel cell stack.